



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/854,128	05/10/2001	Thomas Boussie	99-111CIP1	7420
22905	7590	11/06/2003		
SYMYX TECHNOLOGIES INC LEGAL DEPARTMENT 3100 CENTRAL EXPRESS SANTA CLARA, CA 95051				
			EXAMINER EPPERSON, JON D	
			ART UNIT 1639	PAPER NUMBER 15
DATE MAILED: 11/06/2003				

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/854,128

Applicant(s)

BOUSSIE ET AL.

Examiner

Jon D Epperson

Art Unit

1639

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 August 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) 25-33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## **DETAILED ACTION**

### ***Status of the Application***

1. Receipt is acknowledged of a Response to a Restriction Requirement, which was dated on August 28, 2003 (Paper No. 14).

### ***Priority Claims***

2. Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 121 as follows:

B. The 09/156,827 application (now abandoned) upon which priority is claimed under 35 U.S.C. § 120 fails to provide adequate support (e.g., under 35 U.S.C. 112, first paragraph) for the claims of this application. In the instant case, application 09/156,827 does not provide support for [a] wettable materials, [b] non-wettable materials, [c] depositing wettable material onto a substrate in at least 10 regions, thereafter contacting the substrate with a non-wettable material thereby rendering the substrate non-wettable and depositing at least 10 polymeric materials onto said regions, [d] an organosilane of formula  $R_nSiX_{4-n}$ , [e] "fluorophilic" non-wettable material, [f] infrared spectroscopy, [g] olefin monomers, [h] polymeric materials with "holes", [i] depositing "multiple times" at the "same region" of the substrate a polymer containing liquid, [j] volumes that are about 0.1  $\mu\text{L}/\text{mm}^2$  to about 5  $\mu\text{L}/\text{mm}^2$ , [k] film with thickness of at least about 0.1 to about

1000  $\mu\text{m}$  at the center of the film. If applicant believes this to be in error, applicant must disclose where in the specification support for these claim limitations can be found.

Therefore the filing date of the instant application is deemed to be the filing date of the 09/567,598 parent case, **May 10, 2000**.

3. Applicants are further requested to amend the first line of the specification to update the status of the priority documents e.g., 09/156,827 is a CIP that is now Abandoned.

#### *Status of the Claims*

4. Claims 1-33 were pending in the present application.
5. Applicant's response to the Restriction and/or Election of Species requirements in Paper No. 14 is acknowledged (Applicant elected without traverse Group I, claims 1-24) and claims 25-33 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected inventions, there being no allowable generic or linking claim.
6. Therefore, claims 1-24 are examined on the merits in this action.

#### *Response to Restriction and/or Election of Species*

7. Applicant's election of Group I (claims 1-24) **without traverse** in Paper No. 14 is acknowledged.

8. Applicant's election of species in Paper No. 14 is also acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election of species has also been treated as an election without traverse (see MPEP § 818.03(a) and/ or 37 CFR 1.111(b)).

9. As a result, the restriction requirement and/or election of species is still deemed proper and is therefore made FINAL.

#### ***Information Disclosure Statement***

10. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98 (b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on the form PTO-892, they have not been considered.

11. The references listed on applicant's PTO-1449 form have been considered by the Examiner. A copy of the form is attached to this Office Action.

#### ***Specification***

12. The specification is objected to because of the following informalities:

Art Unit: 1639

A. Page 7, line 5 should read U.S. Patent “5,985,356” and not “5,905,356.”

Appropriate correction is required.

B. The quotation marks for almost every definition are incorrect. For example, page 10 line 16 should read -- The term “cycloalkyl” is used -- and not – The term “cycloalkyl” -- i.e., the “ is backward. See also page 10, line 9, 21, 33, etc.

13. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant’s cooperation is requested in correcting any errors of which applicant may become aware in the specification.

#### ***Objections to the Claims***

14. Claim(s) 4-15 and 21-24 are objected to because of the following informalities:

A. ***Claims 4-15 and 21-24*** are objected to under 37 CFR 1.75(c) as being improper form because a multiple dependent claim depends from another multiple dependent claim. See MPEP § 608.01(n). For compact prosecution claims 4-15 are treated as dependent on claim 1 (with the caveat that claims 7-9 are dependent on claim 6) and claims 21-24 are treated as dependent on claim 16.

B. For ***claim 15***, the word “therethrough” appears to be incorrect.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

15. Claims 1-24 are rejected under 35 USC 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicant is directed to the Guidelines for the Examination of Patent Applications Under the 35 USC 112, ¶ 1 “Written Description” Requirement, Federal Register, Vol. 66, No. 4 pages 1099-1111, Friday January 5, 2001. This is a written description rejection.

These claims encompass a broad genus. For example, claim 1 is drawn to a method to characterize an array of “polymeric materials” that utilizes “wetable materials, “non-wetable materials”, “substrates” and “polymeric materials” wherein any “characterization” technique may be employed to characterize the array. The scope of this claim includes an infinite number of methods for making an infinite number of arrays comprising an infinite number of structural variants (e.g., different substrates, polymers, wettable materials, non-wetable materials) wherein no distinguishing structural attributes are provided for any of the members e.g., substrates, polymers, wettable materials, non-wetable materials etc. The specification and claims do not place any limit on the number of atoms, the types of atoms, or the manner in which said atoms might be connected to form substrates, polymeric materials, wettable materials, non-wetable materials. Although the specification discloses two working examples (see below) and a laundry list of other potential substrates, polymers, wettable/non-wetable materials and characterization techniques (e.g., see Specification, pages 18-24), the specification and claims do not provide any

Art Unit: 1639

guidance as to what structural features all of these substrates, polymers, organosilanes and materials in uncoated regions would share. Consequently, it is not possible to determine *a priori* which substrates would be encompassed (see 35 U.S.C. 112, second paragraph rejection below) because there is no common structural attributes that can link together all of these substrates, polymers, wettable materials, non-wettable materials and characterization techniques.

The general knowledge and level of skill in the art do not supplement the omitted description because specific, not general, guidance is what is needed. Since the disclosure fails to describe the common attributes or characteristics that identify all of the members of the genus or even a substantial portion thereof, and because the genus is enormous and highly variant, listing two working examples i.e., polymerization of ethylene and 1-octene or ethylene and ethylacrylate on a polished silicon wafer treated with gold and perfluorooctyltrichlorosilane (see specification, Examples 1-2) is insufficient to teach the entire genus.

With respect to adequate disclosure Applicant is referred to the discussion in *University of California v. Eli Lilly and Co.* (U.S. Court of Appeals Federal Circuit (CAFC) 43 USPQ2d 1398 7/22/1997 Decided July 22, 1997; No. 96-1175) regarding disclosure. For adequate disclosure, like enablement, requires *representative examples* that provide reasonable assurance to one skilled in the art that the compounds falling within the scope both possess the alleged utility and additionally demonstrate that *applicant had possession of the full scope of the claimed invention*. See *In re Riat* (CCPA 1964) 327 F2d 685, 140 USPQ 471; *In re Barr* (CCPA 1971) 444 F 2d 349, 151 USPQ 724 (for enablement) and *University of California v. Eli Lilly and Co* cited above (for disclosure). Here, Applicants two working examples (see above) are clearly not “representative” of the infinite number of methods for preparing and characterizing arrays of



Art Unit: 1639

polymeric materials that are encompassed by the current claims. Consequently, one of skill in the art would reasonably conclude that the disclosure fails to provide a representative number of species to describe this enormous genus. Thus, applicant was not in possession of the claimed genus.

16. Claim 1-24 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for an array of polymers derived from one or more olefins on a silicon wafer treated with gold and perfluorooctyltrichlorosilane (see specification, Examples 1-2), the specification does not reasonably provide enablement for an any “substrate”, “polymer”, “wetable material”, “non-wetable” material using any “characterization” technique. This is an enablement rejection.

There are many factors to be considered when determining whether there is sufficient evidence to support a determination that a disclosure does not satisfy the enablement requirement and whether any necessary experimentation is “undue”. Some of these factors may include, but are not limited to:

- (1) the breadth of the claims;
- (2) the nature of the invention;
- (3) the state of the prior art;
- (4) the level of one of ordinary skill;
- (5) the level of predictability in the art;
- (6) the amount of direction provided by the inventor;
- (7) the existence of working examples; and
- (8) the quantity of experimentation needed to make or use the invention based on the content of the disclosure.

See *In re Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988).

(1-2) The breadth of the claims and the nature of the invention: These claims are drawn to a broad genus because they encompass an infinite number of methods for characterizing an infinite number of arrays using an infinite number of substrates, polymeric materials, wettable materials and non-wettable materials and characterization techniques. Such claims represent very broad scope. Consequently, the nature of the invention cannot be determined in light of the foregoing and without knowing the specific “substrate”, “polymer”, “wetting material”, “non-wetting material” and characterization technique that is being used.

(3 and 5) The state of the prior art and the level of predictability in the art: Only a limited number of “polymer” arrays were known (e.g., see 35 U.S.C. § 102 and/or 103 rejections below). Furthermore, the specification does not give sufficient support for making an infinite number of claimed polymer arrays or provide any means for extrapolating the infinite number of claimed polymer arrays to their two working examples. Applicants’ claimed scope represents only an invitation to experiment regarding possible polymer array structures by providing only a mere laundry list of potential substrates, polymers, organosilane compounds and uncoated materials to try.

In addition, making and using arrays of polymers is inherently unpredictable. Even for Applicants’ most preferred embodiments i.e., polymers of olefin monomers (like the examples presented by Applicant), the prior art clearly demonstrates that the level of predictability is low and the state of the prior art was minimal or non-existent at the time of filing (e.g., see Tagge et al, page 4, paragraph 2, “Catalytic olefin

polymerization, for example, is sensitive to small variations in conditions and has rarely been attempted using microscale combinatorial techniques”).

(4) The level of one of ordinary skill: The level of skill required would be high, most likely at the Ph.D. level.

(6-7) The amount of direction provided by the inventor and the existence of working examples: Applicants specification teaches only two examples i.e., polymerization of ethylene and 1-octene or ethylene and ethylacrylate on a polished silicon wafer treated with gold and perfluorooctyltrichlorosilane.

(8) The quantity of experimentation needed to make or use the invention base on the content of the disclosure: As a result of the broad and unpredictable nature of the invention and the lack of specific guidance from the specification, the Examiner contends that the quantity of experimentation needed to make and or use the invention would be great. Note that there must be sufficient disclosure, either through illustrative examples or terminology, to teach those of ordinary skill how to make and use the invention as broadly as it is claimed. *In re Vaeck*, 947 F.2d 488, 496 & n.23, 20 USPQ2d 1438, 1445 \* n.23 (Fed. Cir. 19991). In this case, Applicants have not provided enough working examples that would teach this enormous genus that falls within a highly unpredictable art area. Therefore, it is deemed that further research of an unpredictable nature would be necessary to make or use the invention as claimed. Thus, due to the inadequacies of the instant disclosure one of ordinary skill would not have a reasonable expectation of success and the practice of the full scope of the invention would require undue experimentation.

***Claims Rejections - 35 U.S.C. 112, second paragraph***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

17. Claims 1-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. **Claim 1** recites the limitation "the materials" in the last line. There is insufficient antecedent basis for this limitation in the claim. Therefore, claim 1 and all dependent claims are rejected under 35 USC 112, second paragraph.

B. **Claims 1, 3, 17, 18 and 22** recite the limitations "said region(s)" or "the region(s)". There is insufficient antecedent basis for these limitations in the claims. Therefore, claim 1, 3, 17-18 and all dependent claims are rejected under 35 USC 112, second paragraph.

C. **Claims 1-6, 10, 12, 16-17 and 19** are rejected because the "wetable", "non-wetable", "silanizable", "unsilanizable" materials, regions and/or substrates in these claims is not defined with any chemical or physical characteristic, but only by functional properties e.g., the ability to act as "wetable" or "non-wetable" materials. A claim to a material defined solely in terms of what it can do, or a property thereof, does not particularly point out the claimed invention. A person of skill in the art cannot immediately envision all the possible chemical structures for a peptide with this function.

Thus, the metes and bounds of the claimed invention cannot be determined. See *ex parte Pulvari* (POBA 1966) 157 USPQ 169. Therefore, claims 1-6, 10, 12, 16-17, 19 and all dependent claims are rejected under 35 USC 112, second paragraph.

D. For **claim 6**, the phrase “each R is independently selected from the group consisting of alkyl, substituted alkyl ... and combinations thereof” is vague and indefinite. For example, it is not clear whether each “position” can be a “combination thereof” (e.g., R<sub>1</sub> is alkyl, R<sub>2</sub> is silyl, R<sub>3</sub> is boryl) or whether each “R” group itself can be a “combination thereof” (e.g., R<sub>1</sub> is an alkyl-silyl-boryl)? Applicants are requested to clarify and/or correct. Therefore, claims 6 and all dependent claims are rejected under 35 U.S.C. 112, second paragraph.

E. For **claim 16**, the phrase “an array of polymeric materials to be characterized onto a substrate” is vague and indefinite. For example, it is not clear how the polymeric materials can be “characterized onto” a substrate? The Examiner contends that the materials could be “deposited onto” a substrate and then later “characterized”, but not “characterized onto” a substrate. Applicants are requested to clarify and/or correct. Therefore, claim 16 and all dependent claims are rejected under 35 U.S.C. 112, second paragraph.

F. **Claim 17** recites the limitation "the dispensing step" in the last line. There is insufficient antecedent basis for this limitation in the claim. Therefore, claim 17 and all dependent claims are rejected under 35 USC 112, second paragraph.

Art Unit: 1639

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

18. Claims 1-10, 12 and 14-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Wohlstadter et al (WO 96/28538) (Date of Publication is **September 19, 1996**).

For *claims 1, 14-17, 20*, Wohlstadter et al (see entire document) discloses methods for making and characterizing a patterned multi-array, multi-specific surface (PMAMS) that anticipates claims 1, 14-17 and 20. For example, Wohlstadter et al discloses a substrate having multiple regions on the substrate that are not coated with an organosilane (e.g., see Wohlstadter et al, figure 5A showing substrate with multiple regions i.e., an array of triangles, circles and squares; see also figure 13 showing multiple regions containing SAMs on a metal surface i.e., element 1400, 1404 and 1408, which does not represent “organosilane” reagents because SAMs are typically alkanethiols not “organosilane” compounds e.g., see page 24, line 18; see also page 14, line 21 wherein “gold” is disclosed as the metal; see also page 22, paragraph 3 wherein many different substrates are disclosed including glass, plastic, ceramic, polymeric, silicon, layered materials, etc). Wohlstadter et al further discloses substrates with holes in these regions (e.g., see Wohlstadter et al page 26, paragraphs 2-6 and paragraph 1 on page 27 wherein “porous” substrates are disclosed that have “holes” ranging between 50 Å to 10000 µm; see also page 37, lines 1-2, “collections of binding domains may be located in ... holes in

the support”; see also page 26, line 16 wherein Wohlstadter et al states hat the “pores may extend partially and/or fully through the material”). Wohlstadter et al also discloses that the “uncoated” gold regions may have a border with an organosilane agent coated on the substrate (e.g., see page 8, lines 17-21; see also page 24, paragraph 3, especially line 19 wherein Wohlstadter et al discloses the use of an “alkyltrichlorosilane”; see also page 32, line 29; see also page 33, paragraph 1). Furthermore, Wohlstadter et al discloses “25 to 100” binding domains (e.g., see Wohlstadter et al, page 22, paragraph 2; see also Figure 5), which is “at least 10” and also “at least 50” regions.

In addition, Wohlstadter et al further discloses depositing a polymer on the regions not coated with an organosilane agent, wherein the polymer covers the hole (e.g., see Wohlstadter et al, page 39, line 27 wherein Wohlstadter et al discloses “synthetic polymers” and other “natural” polymers like proteins; see also page 84, lines 36-37; see also page 90, line 31). Finally, Wohlstadter et al discloses polymers of a thickness that would allow the characterization technique to project through the polymer (e.g., Wohlstadter et al discloses a variety of thickness that allow characterization via ECL; see page 95, paragraphs 1-3; see also page 67, line 15).

For *claims 2 and 6-10*, Wohlstadter et al discloses an alkyltrichlorosilane (e.g., see Wohlstadter et al, page 24, line 19).

For *claims 3, 19*, Wohlstadter et al discloses templates (e.g., see figure 5c).

For *claim 4*, Wohlstadter et al discloses vapor deposition (e.g., see page 39, lines 35-36).

For *claims 5, 12, 18*, Wohlstadter et al discloses gold (e.g., see Wohlstadter et al, page 14, line 21; see also page 34, line 4; see also page 69, line 37).

For *claim 21-22*, Wohlstadter et al discloses multiple depositions on the same region using volumes from about 0.1  $\mu\text{l}/\text{mm}^2$  to about 5 $\mu\text{l}/\text{mm}^2$  (e.g., see page 121, paragraph 1; see also .

For *claim 23*, Wohlstadter et al discloses a thickness of at least about 0.1 to about 1000  $\mu\text{m}$  at the center of the film (e.g., see page 56, line 24).

For *claim 24*, Wohlstadter et al discloses allowing samples to dry (e.g., see page 56, line 11).

19. Claims 1-2, 5-10, 12, 15-16 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Sheppard et al (WO 98/28623) (Date of Publication is **July 2, 1998**).

For *claims 1, 2, 5-10, 12, 15-16 and 18*, Sheppard et al (see entire document) discloses methods for making an affinity binding-based system for detecting particulates in a fluid, which anticipates claims 1, 2, 6-10, 12, 15-16 and 18. For example, Sheppard et al discloses defining at least 10 regions (see Sheppard et al, figure 1 disclosing >10 regions with specific binding partners; see also page 16, paragraph 1; see also page 25, last paragraph) on a silanizeable substrate (see page 25, last paragraph e.g., disclosing substituted silanes and siloxanes on quartz; see also page 17, paragraph 2; see also page 26, last paragraph; see especially page 23, lines 18-25) by depositing in those regions a material (see Sheppard et al, figure 1, element 11; see especially page 15, paragraph 2



disclosing a large number of different “specific binding reagents”; see also page 16, paragraph 1 disclosing that each binding reagent may be different; see especially page 25, paragraph 2 disclosing “gold” as the material). Sheppard et al also discloses contacting the substrate with an organosilane agent to silanize the substrate without modifying the surface tension of the region-defining material after the deposition of the region-defining material (see Sheppard et al, page 25, last paragraph disclosing silanes and siloxanes as “non-specific blocking agents”; see especially page 26, paragraph 1, “More preferably, the surface is treated after deposition of the specific binding reagent(s) with a non-specific blocking agent”, disclosing that the silanization (i.e., the non-specific blocking agent) can be performed after the deposition of a region-defining material (i.e., the specific binding reagents). Sheppard et al discloses depositing at least 10 polymeric materials onto said regions (see Sheppard et al, figure 1 disclosing >10 regions with specific binding partners; see also page 16, paragraph 1; see also page 25, last paragraph). Finally, Sheppard et al discloses characterizing the polymeric materials (see Figure 5 disclosing electrochemical, fluorescence, chemiluminescence, etc.; see also page 22, line 23; see also page 18, paragraph 1; see also page 21, paragraph 2; see also page 31; see especially page 34, paragraph 1; see also page 35, paragraph 2). Sheppard et al also discloses “holes” in the forms of “pores” (e.g., see Sheppard et al, page 5, line 27).

***Claim Rejections - 35 USC § 103***

Art Unit: 1639

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

21. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

22. Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wohlstadter et al (WO 96/28538) (Date of Publication is **September 19, 1996**) and Weinberg et al (US 6,419,881 B1).

For *claims 1-10, 12 and 14-24*, Wohlstadter et al teaches all the limitations stated in the 35 U.S.C. 102(b) rejection above (incorporated in its entirety herein by reference), which anticipates claims 1-10, 12 and 14-24 and, consequently, also renders obvious claims 1-10, 12 and 14-24.

The prior art teaching of Wohlstadter et al differs from the claimed invention as follows:

For *claim 11*, the prior art teaching of Wohlstadter et al differs from the claimed invention by not specifically reciting the use of infrared spectroscopy or X-ray fluorescence.

For *claim 13*, the prior art teaching of Wohlstadter et al differs from the claimed invention by not specifically reciting the use of a “polyolefin”. Wohlstadter et al is deficient in that it only recites the use of a “polymer” and does not explicitly mention a “polyolefin” polymer (see Wohlstadter et al, page 39, line 27; page 84, line 36; page 90, line 31).

However, Weinberg et al teaches the following limitations that are deficient in Wohlstadter et al:

For *claim 11*, Weinberg et al teaches infrared spectroscopy (e.g., see column 12, line 17; see also column 10, line 51).

For *claim 13*, Weinberg et al (see entire document) teaches that “polyolefins” may be used in high throughput screening methods that employ arrays wherein the polyolefin is bound to the substrate (e.g., see Weinberg et al, Examples; see also claim 20).

For *claims 15-16*, Weinberg et al also teaches the use of holes (e.g., see column 15, lines 27-32; see also column 31, line 50; see also column 14, section B, especially line 57).

It would have been obvious to one skilled in the art at the time the invention was made to use the array of “polyolefins” as taught by Weinberg et al with the array of “polymers” as taught by Wohlstadter et al because “polyolefins” are polymers i.e.,

Art Unit: 1639

polyolefins falls within the scope of the Wohlstadter et al reference. Furthermore, one of ordinary skill in the art would have been motivated to use the polyolefins because Weinberg et al claims polyolefins as a preferred embodiment (e.g., see claim 20). Furthermore, one of ordinary skill in the art would have reasonably expected to be successful because Weinberg et al teaches successful examples of polyolefin arrays.

### *Double Patenting*

23. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Art Unit: 1639

24. Claims 1-24 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-31 (especially claims 1-23) of U.S. Patent Application No. 20020197454 A1 (herein referred to as '454) (Serial No. 10/210,915). Although the conflicting claims are not identical, they are not patentably distinct from each other because the examined claims are either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1986). Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1-24 are generic to all that is recited in claims 1-31 (especially claims 1-23) of '454. That is, claims 1-31 of '454 falls entirely within the scope of claim 1-24 or, in other words, claims 1-24 are anticipated by claims 1-31 of '454. For example, claim 1 of '454 falls entirely within the scope of claim 1 of the present application or, in other words, claim 1 is anticipated by claim 1 of '454. Specifically, [1] both claims recite a method to characterize an array of polymeric materials using a substrate with at least to regions (compare claim 1 of '454 to claim 1 of the present application), [2] claim 1 of '454 discloses "depositing an unsilanizable material onto a silanizable substrate in at least 10 regions, thereafter contacting the substrate with an organosilane agent thereby silanizing the substrate but not the unsilanizeable material in said regions" falls entirely within the scope of "depositing wettable material onto a substrate in at least 10 regions, thereafter contacting the substrate with a non-wettable material thereby rendering the substrate non-wettable but not the wettable material in said regions" because the unsilanizable/silanizable materials and/or substrates fall entirely within the scope of non-wettable/wettable materials and/or substrates

Art Unit: 1639

(e.g., compare claim 1 of '454 to claim 1 of the present invention; see also claim 2 showing that unsilanizable/silanizable materials fall within the scope of non-wettable/wettable materials), [3] both references disclose optionally, partially or completely removing the wettable/unsilanizable materials and depositing at least 10 polymeric materials onto said regions (compare claim 1 of '454 to claim 1 of the present invention), and [4] both applications disclose characterizing the materials (compare claim 1 of '454 to claim 1 of the present invention).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

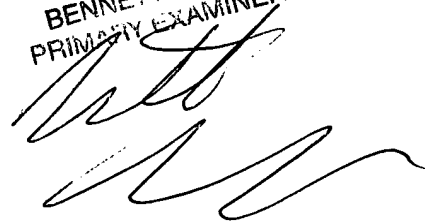
#### *Contact Information*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jon D Epperson whose telephone number is (703) 308-2423. The examiner can normally be reached Monday-Friday from 9:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang can be reached on (703) 306-3217. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9307 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-2439.

Jon D. Epperson, Ph.D.  
November 2, 2003

BENNETT CELSA  
PRIMARY EXAMINER  


Application/Control Number: 09/854,128

Art Unit: 1639

Page 22